Attorney Docket No. 00447CD/HG

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Masahiro KAWAKAMI et al.

Serial No. : Div. Appl. of S.N. 09/598,605

Filed : Concomitantly Herewith

Art Unit :

Examiner :

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Dorothy DeFrancesco

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In the event that this Paper is late filed, and the necessary petition for extension of time is not filed concurrently herewith, please consider this as a Petition for the requisite extension of time, and to the extent not tendered by check attached hereto, authorization to charge the extension fee, or any other fee required in connection with this Paper to Account No. 06-1378.

PRELIMINARY AMENDMENT FILED CONCOMITANT WITH DIVISIONAL APPLICATION

Assistant Commissioner for Patents
Washington, D.C. 20231

S I R :

Please amend the application as follows:

IN THE TITLE:

Please revise the title to read as follows:

--SMELTING REDUCTION METHOD--.

IN THE SPECIFICATION:

Page 1, line 1, delete "SPECIFICATION";

Page 1, in the first line after the title, insert the following:

--This application is a Divisional Application of application Serial No. 09/598,605 filed June 21, 2000, which is a Continuation Application of International Application PCT/JP98/05852 filed December 24, 1998 (not published in English).--

IN THE CLAIMS:

24. (Amended) A smelting reduction method comprising:

(a) charging a carbonaceous material and an ore into a reacting furnace to directly contact the carbonaceous material and the ore;

(b) reducing the ore until at least a part of the ore is metallized, the resultant ore containing at least a part of the metallized metal being produced;

(c) charging the carbonaceous material and the ore containing at least a part of the metallized metal from step (b) into a smelting furnace having a metal bath; and

(d) blowing a gas containing 20% or more of oxygen into the metal bath in the smelting furnace to produce molten iron.

25. (Amended) The method of claim 24, further comprising charging carbonaceous material and pre-reduced ore into the metal bath of the smelting furnace.

26. (Amended) The method of claim 24, wherein the carbonaceous material charged into the reacting furnace is in an amount which is stoichiometrically sufficient for reducing and metallizing all of the ore charged into the reacting furnace.

27. (Amended) The method of claim 24, wherein the reacting furnace is a rotary kiln furnace or a rotary hearth furnace.

Please cancel claims 1 to 23 and 28 to 37, without prejudice.

Please add the following claims:

38. (New) The method of claim 25, wherein the carbonaceous material charged into the smelting furnace is in an amount which is stoichiometrically sufficient for reducing and metallizing all of the ore charged into the smelting furnace.

39. (New) The method of claim 38, wherein the reacting furnace is a rotary kiln furnace.

40. (New) The method of claim 38, wherein the reacting furnace is a rotary hearth furnace.

41. (New) The method of claim 24, wherein the carbonaceous material comprises char generated by devolatilizing coal.

IN THE ABSTRACT:

Replace the ABSTRACT with the ABSTRACT OF THE DISCLOSURE submitted concomitantly herewith.

R E M A R K S

This is a Divisional Application of application Serial No. 09/598,605.

In the March 2, 2001 Office Action in parent application Serial No. 09/598,605, there was a Restriction Requirement under 35 USC 121. The claims in the Divisional Application are directed to the claims of non-elected Group II.

The specification was amended to update the status of the application.

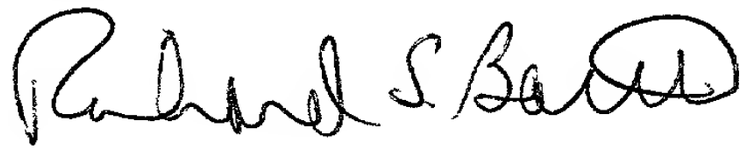
Claims 24 to 27 were editorially revised. Enclosed is a MARKED UP VERSION OF THE AMENDMENTS TO THE CLAIMS.

New claim 38 recites the features of claim 26.

New claims 39 and 40 recite features of claim 27.

New claim 41 is supported in the specification on page 54, lines 4 to 8.

Respectfully submitted,



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Enclosure: MARKED UP VERSION OF THE AMENDMENTS TO THE CLAIMS

MARKED UP VERSION OF THE AMENDMENTS TO THE CLAIMS

24. (Amended) A smelting reduction method[,] comprising [the steps of]:

(a) charging a carbonaceous material and [ores] an ore into a reacting furnace [having a function of] to directly [contacting] contact the carbonaceous material and the [ores] ore;

(b) reducing the [ores] ore until at least [one] a part of the [ores] ore is metallized, the resultant reduced [ores] ore containing at least [one] a part of the metallized metal being produced;

(c) charging the carbonaceous material [from the reducing step (b)] and the [ores] ore containing at least [one] a part of the metallized metal from step (b) into a smelting furnace [of] having a metal bath [type]; and

(d) blowing a gas containing 20% or more of oxygen [20% or more] into the metal bath in the smelting furnace [of metal bath] to produce molten iron.

25. (Amended) The method of claim 24, further comprising charging carbonaceous material and pre-reduced [ores] ore into the metal bath of the smelting furnace [of metal bath type].

26. (Amended) The method of claim 24, wherein the carbonaceous material [to be] charged into the reacting furnace [has] is in an amount which is stoichiometrically [an amount] sufficient for reducing and metallizing all [amount] of the [ores] ore charged [in] into the reacting furnace.

27. (Amended) The method of claim 24, wherein the reacting furnace is a rotary kiln [type] furnace or a rotary hearth [type] furnace.

ABSTRACT OF THE DISCLOSURE

A smelting reduction method comprising (a) charging a carbonaceous material and an ore into a reacting furnace to directly contact the carbonaceous material and the ore; (b) reducing the ore until at least a part of the ore is metallized, the resultant reduced ore containing at least a part of metallized metal being produced; (c) charging the carbonaceous material and the ore containing at least a part of the metallized metal from step (b) into a smelting furnace having a metal bath; and (d) blowing a gas containing 20% or more of oxygen into the metal bath in the smelting furnace to produce molten iron.